

ABSTRAK

PERBEDAAN EKSPRESI SYNAPSIN DI CEREBRUM DAN CEREBELLUM BAYI RATTUS NORVEGICUS BARU LAHIR TERHADAP STIMULASI MUSIK MOZART, MUSIK POP, MUSIK RELIGI SAAT KEBUNTINGAN

Ukhti Mukminah Ilmi Amila

Latar Belakang : Persiapan pembentukan generasi penerus bangsa yang berkualitas dapat dimulai sejak dini. Stimulasi musik klasik merupakan sebuah metode yang terbukti dapat mempengaruhi perkembangan intekegensia serta fungsi otak anak. Musik klasik Mozart merupakan musik klasik yang memiliki frekuensi dan intensitas yang dapat merangsang pertumbuhan jaringan sinaps. Musik pop dan religi perlu diteliti karena musik tersebut adalah musik yang lebih populer di Indonesia.

Tujuan : Menganalisis perbedaan ekspresi synapsin di cerebrum dan cerebellum bayi Rattus norvegicus baru lahir terhadap stimulasi musik Mozart, musik pop , musik religi dan tidak di stimulasi musik saat kebuntingan.

Metode : Eksperimental dengan post test only control group design. Perlakuan diberikan pada hewan coba Rattus norvegicus mulai hari kebuntingan ke 10-19, selama 1 jam di ruang kedap suara, intensitas 65 dB. Pada hari kebuntingan hari ke 20 Rattus norvegicus dikorbankan dan dipilih 3 anak Rattus norvegicus dengan berat badan terberat, sedang dan terendah kemudian kepala anak Rattus norvegicus didekapitasi dan diseksi otaknya lalu dihitung ekspresi synapsin menggunakan metode imunohistokimia dilihat dengan pembesaran mikroskop 400 kali dan di hitung 5X pandang telah mendapatkan ijin kelaikan etik . kemudian dianalisis uji statistic Anova dan dilanjutkan uji Post Hoc LSD.

Hasil : Terdapat perbedaan bermakna ekspresi synapsin di cerebrum Rattus norvegicus baru lahir antar kelompok Mozart dengan tanpa musik dengan ($p=0,005$), kelompok religi dengan tanpa musik dengan ($p=0,018$). Terdapat perbedaan bermakna ekspresi synapsin di cerebellum Rattus norvegicus baru lahir antar kelompok Mozart dengan musik pop ($p=0,007$), kelompok Mozart dengan musik religi ($p=0,008$), kelompok Mozart dengan tanpa musik ($p=0,004$). Dengan $p<0,05$

Kesimpulan : Terdapat rata-rata ekspresi synapsin tertinggi pada kelompok Mozart.

Kata kunci : Mozart, pop, religi. baru lahir, ekspresi synapsin

ABSTRACT

THE DIFFERENCE OF SYNAPSIN EXPRESSION IN THE CEREBRUM AND CEREBELLUM OF THE OFFSPRINGS RATTUS NORVEGICUS WITH THE STIMULATION OF MOZART, POP, AND RELIGIOUS MUSIC DURING PREGNANCY

Ukhti Mukminah Ilmi Amila

Background : Efforts to achieve offsprings with good quality can be started from the early stage of life. Classical music stimulation is a proven method that affect intelligence as well as brain function. Mozart's classical music has a certain frequency and intensity which can stimulate the growth of synaptic networks. The study of pop and religious music needs to be improve because they are more popular in Indonesia.

Objectives : To analyze the difference of cerebrum and cerebellar synapsin expression of the offspring Rattus norvegicus on Mozart, Pop, religious and without music exposure during preganancy.

Method: This study was an experimental study employing post test only control group design. Treatments were conducted to Rattus norvegicus as a test animal between the 10th to 19th day of pregnancy, for 1 hour in a soundproof chamber, with 65dB intensity. In the 20th day of pregnancy, Rattus norvegicus were sacrificed and three of the offsprings, with the largest, moderate, and the smallest body weight were chosen. Subsequently, the head of the chosen Rattus novercigus offsprings were decapitated and the brain dissection to calculate synapsin expression by employing immunochemistry method observed with 400 magnification strength and counted on the 5 field of view. This study has been approved by Ethical Committee, analized with Anova statistical test, subsequently proceeded with Post Hoc LSD.

Results : Significant differences of synapsin expression were observed in the cerebrum of the offspring Rattus norvegicus between Mozart and control groups ($p = 0,005$), religious music and control groups ($p = 0,018$). Significant differences of synapsin expressions were observed in the cerebellum of the offspring Rattus norvegicus between Mozart and pop music groups ($p = 0,007$), Mozart and religious compare groups ($p = 0,008$), Mozart and without music groups ($p = 0,004$).

Conclusion : The highest mean synapsin expression was observed in the Mozart group.

Keywords : Mozart, pop, religious. Offspring, synapsin expression